

What Is Claimed Is:

1. A cell observation apparatus comprising a cell observation chamber and optical observation means,

said cell observation chamber comprising therein a pair of wells and a flow path for communicating of said wells and being arranged in such a manner that cells in cell suspension stored in one of said pair of wells can react with chemotactic factor containing solution stored in the other of said wells to move from one to the other of said wells through said flow path, and

said optical observation means being adapted to be capable of observing said cells moving through said flow path optically from outside said cell observation chamber, wherein

said cell observation chamber is housed in a casing of said cell observation apparatus in such a manner that the side of providing or removing said solutions thereof is partially exposed from said casing, and wherein

said optical observation means is housed in said casing below said cell observation chamber in such a manner that the optical axis thereof extends horizontally.

2. The cell observation apparatus according to claim 1, wherein

said optical observation means comprises an optical system on a stage movable in an XY two-dimensional plane, said system consisting of an objective lens, a plurality of reflecting mirrors, a half mirror, a light source, and a camera,

said objective lens being arranged near a window provided in said cell observation chamber so as to be capable of observing said cells moving through said flow path, and

said light source being adapted to illuminate said cells moving through said flow path through said optical system to allow said camera to

image said cells visibly.

3. The cell observation apparatus according to claim 1, further comprising temperature control means,

said temperature control means having means for controlling the atmosphere in said casing and the main body of said casing to be a predetermined temperature.